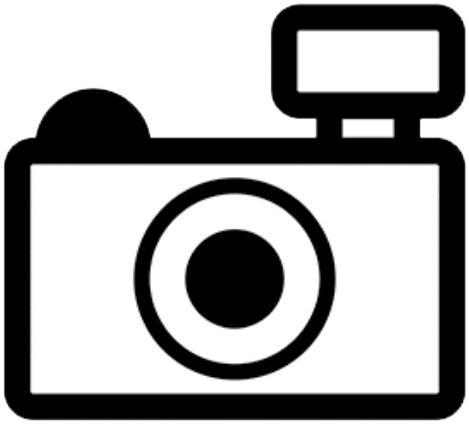
Deccan White Carp (*Gymnostomus fulungee*)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, October 2012
Revised, February 2019
Web Version, 5/31/2019



1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2019):

"Asia: Maharashtra and Karnataka in India; probably in other parts of Indian peninsula."

From Dahanukar (2011):

"*Cirrhinus fulungee* is widely distributed in the Deccan plateau. It is recorded from Krishna and Godavari river system from Maharashtra, Karnataka, Andhra Pradesh, Madhya Pradesh and Chhattisgarh. Record of this species from Cauvery river system (Menon 1999) is doubtful. In Maharashtra, the species is known from Mula-Mutha river of Pune (Fraser 1942, Tonapi and Mulherkar 1963, Kharat et al. 2003, Wagh and Ghate 2003), Pashan lake in Pune (Fraser 1942, Tonapi and Mulherkar 1963), Pavana River near Pune (Chandanshive et al. 2007), Ujni Wetland (Yazdani and Singh 1990), Neera river near Bhor (Neelesh Dahanukar, Mandar Paingankar, Rupesh Raut and S.S. Kharat, manuscript submitted), Krishna river near Wai (S.S. Kharat, Mandar Paingankar and Neelesh Dahanukar, manuscript in preparation), Koyna river at Patan (Jadhav et al. 2011), Panchaganga river in Kolhapur (Kalawar and Kelkar 1956), Solapur district

(Jadhav and Yadav 2009), Kinwat near Nanded (Hiware 2006) and Adan river (Heda 2009). In Andhra Pradesh, the species is known from Nagarjunasagar (Venkateshwarlu et al. 2006). In Karnataka, the species is reported from Tungabhadra river (Chacko and Kuriyan 1948, David 1956, Shahnawaz and Venkateshwarlu 2009, Shahnawaz et al. 2010), Linganamakki Reservoir on Sharavati River (Shreekantha and Ramachandra 2005), Biligiri Ranganathswamy Temple Wildlife Sanctuary (Devi et al. 2009), and Jannapura pond (Venkateshwarlu and Somashekar 2005). The species is also reported from Madhya Pradesh and Chhattisgarh (Chandra and Sharma 2007, Dubey 2009, Sarkar and Lakra 2007) but the exact localities are missing. However, it is possible that the species is reported from the tributaries of Godavari river system in these two states. This is a wide spread species with an inferred EOO of 520000 to 530000 km2."

Status in the United States

No records of any wild populations of *Gymnostomus fulungee* in the United States were found. No records of *G. fulungee* in trade in the United States were found.

Means of Introductions in the United States

No records of any wild populations of *Gymnostomus fulungee* in the United States were found.

Remarks

Gymnostomus fulungee was previously known as *Cirrhinus fulungee*, therefore a search was done under both names.

A previous version of this ERSS was published in 2012 under the name *Cirrhinus fulungee*.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From Fricke et al. (2019):

"**Current status:** Valid as *Gymnostomus fulungee* (Sykes 1839)."

The switch in valid name from *Cirrhinus fulungee* to *Gymnostomus fulungee* is recent (Fricke et al. 2019) and virtually all databases still use the name *C. fulungee*. No taxonomic hierarchy could be found using the current name *Gymnostomus fulungee*, but the hierarchy was available using the previous name *Cirrhinus fulungee*. The taxonomic hierarchy is provided using the older name. The hierarchy is still valid through the family level. *Cirrhinus* and *Gymnostomus* are both within the Cyprinidae family.

From ITIS (2019):

"Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata

Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Actinopterygii
Class Teleostei
Superorder Ostariophysi
Order Cypriniformes
Superfamily Cyprinoidea
Family Cyprinidae
Genus *Cirrhinus*
Species *Cirrhinus fulungee* (Sykes, 1839)"

Size, Weight, and Age Range

From Froese and Pauly (2019):

"Max length : 30.0 cm SL male/unsexed; [Roberts 1997]"

Environment

From Froese and Pauly (2019):

"Freshwater; benthopelagic"

Climate/Range

From Froese and Pauly (2019):

"Tropical"

Distribution Outside the United States

Native

From Froese and Pauly (2019):

"Asia: Maharashtra and Karnataka in India; probably in other parts of Indian peninsula."

From Dahanukar (2011):

"*Cirrhinus fulungee* is widely distributed in the Deccan plateau. It is recorded from Krishna and Godavari river system from Maharashtra, Karnataka, Andhra Pradesh, Madhya Pradesh and Chhattisgarh. Record of this species from Cauvery river system (Menon 1999) is doubtful. In Maharashtra, the species is known from Mula-Mutha river of Pune (Fraser 1942, Tonapi and Mulherkar 1963, Kharat et al. 2003, Wagh and Ghate 2003), Pashan lake in Pune (Fraser 1942, Tonapi and Mulherkar 1963), Pavana River near Pune (Chandanshive et al. 2007), Ujni Wetland (Yazdani and Singh 1990), Neera river near Bhor (Neelesh Dahanukar, Mandar Paingankar, Rupesh Raut and S.S. Kharat, manuscript submitted), Krishna river near Wai (S.S. Kharat, Mandar Paingankar and Neelesh Dahanukar, manuscript in preparation), Koyna river at Patan (Jadhav et al. 2011), Panchaganga river in Kolhapur (Kalawar and Kelkar 1956), Solapur district (Jadhav and Yadav 2009), Kinwat near Nanded (Hiware 2006) and Adan river (Heda 2009). In

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Introduced
No records of introductions outside of its native range were found.

Means of Introduction Outside the United States
No records of introduction outside of its native range were found.

Short Description
From Froese and Pauly (2019):

"Dorsal spines (total): 0; Dorsal soft rays (total): 8; Vertebrae: 36 – 37"

No further description of the species could be found.

Biology
From Froese and Pauly (2019):

"Found in rivers and tanks [Menon 1999]"

From Dahanukar (2011):

"*Cirrhinus fulungee* is found in rivers, lakes and reservoirs (Menon 1999, Tonapi and Mulherkar 1963, Sreekantha and Ramachandra 2005)."

Human Uses
From Froese and Pauly (2019):

"Fisheries: minor commercial"

From Dahanukar (2011):

"*Cirrhinus fulungee* is a food fish and it has minor fishery value (Talwar and Jhingran 1991). It is often caught and sold in local markets. However, harvesting of the fish has not been reported as a threat to the species."

Diseases

No records of disease were found for *Gymnostomus fulungee*. **No OIE reportable diseases (OIE 2019) were recorded for *Gymnostomus fulungee*.**

Threat to Humans

From Froese and Pauly (2019):

"Harmless"

3 Impacts of Introductions

No records of introduction of *Gymnostomus fulungee* outside of its native range were found.

4 Global Distribution

Figure 1. Known global distribution of *Gymnostomus fulungee*. All locations are in India. Map from GBIF Secretariat (2019). The northern location was not used to select source points in the climate match since there were discrepancies in the record indicating that it is most likely not representative of an established population.

5 Distribution Within the United States

No records of any wild populations of *Gymnostomus fulungee* in the United States are available.

6 Climate Matching

Summary of Climate Matching Analysis

The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.000, low (scores between 0.000 and 0.005, inclusive, are classified as low). The vast majority of the contiguous United States had a low climate match, with small areas in southern Texas and parts of the border in Arizona having medium matches. All individual States had a low climate score.

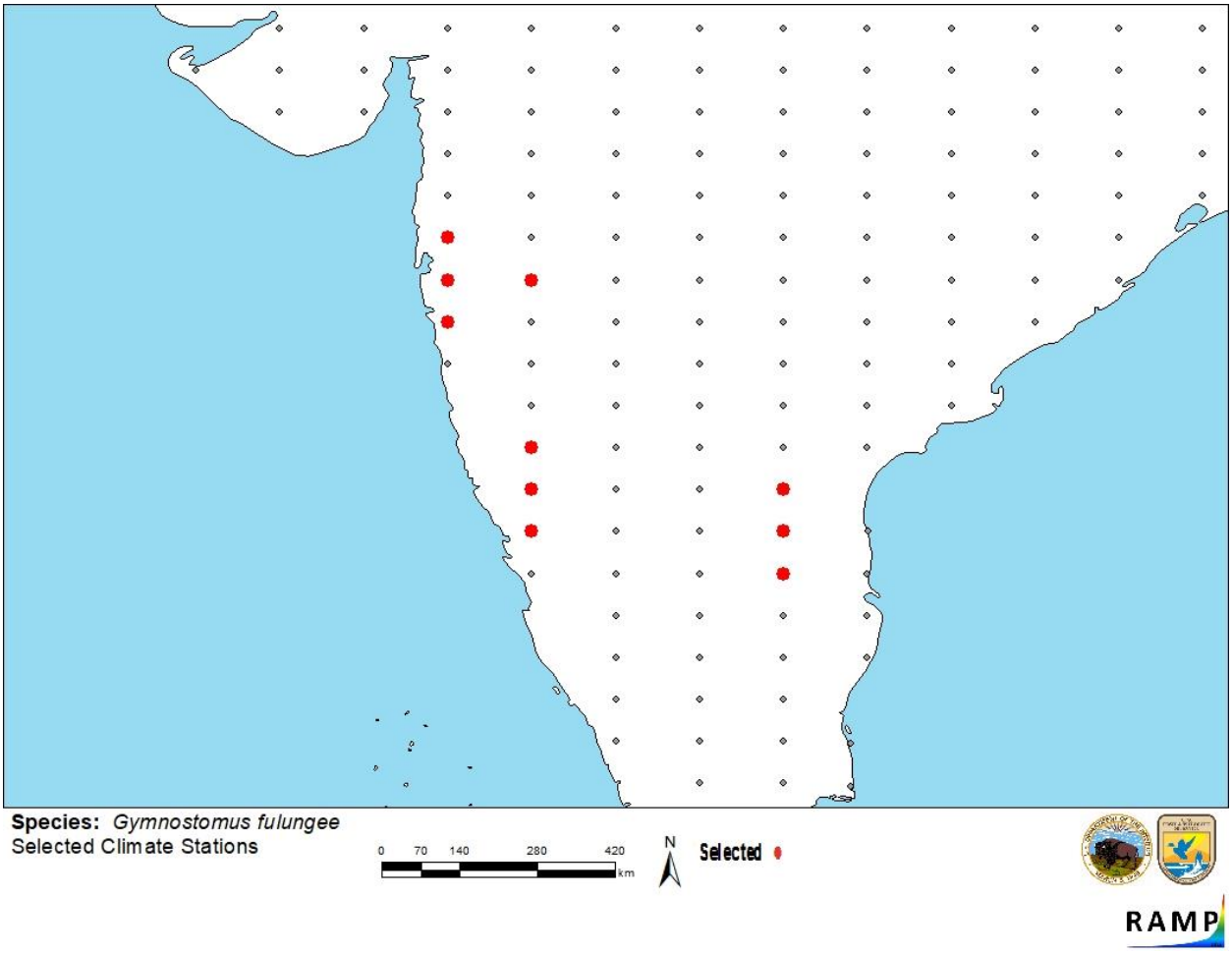

Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in India selected as source locations (red) and non-source locations (gray) for *Gymnostomus fulungee* climate matching. Source locations from GBIF Secretariat (2019).

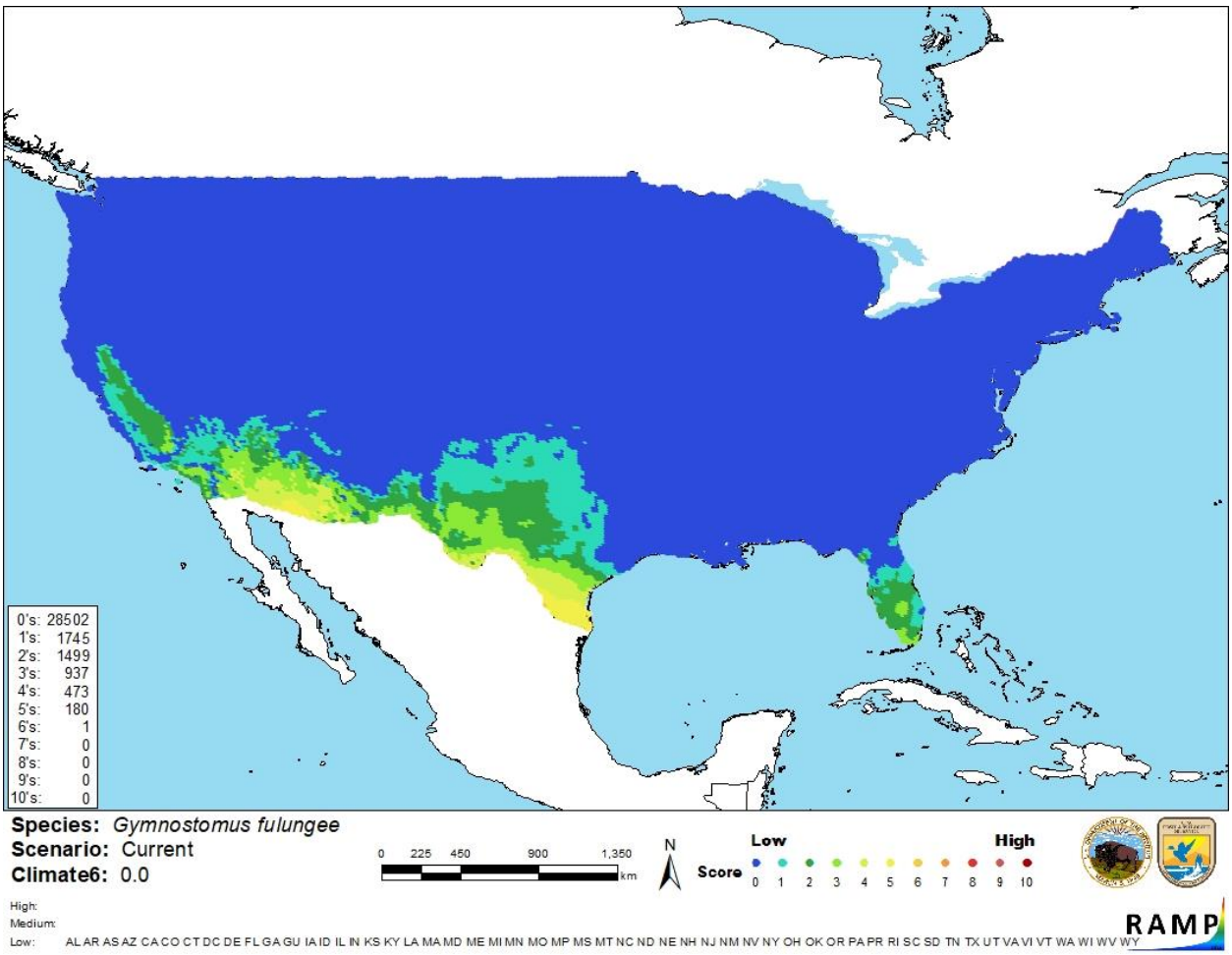

Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Gymnostomus fulungee* in the contiguous United States based on source locations reported by GBIF Secretariat (2019). 0 = Lowest match, 10 = Highest match.

The High, Medium, and Low Climate match Categories are based on the following table:

Climate 6: Proportion of (Sum of Climate Scores 6-10) / (Sum of total Climate Scores)	Climate Match Category
0.000≤X≤0.005	Low
0.005<X<0.103	Medium
≥0.103	High

7 Certainty of Assessment

Basic information is available on *Gymnostomus fulungee* but no introductions have been reported outside of the native range. Therefore there is no information on impacts of introduction to evaluate. The certainty of assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Gymnostomus fulungee is a freshwater cyprinid located in Maharashtra and Karnataka in India. *Gymnostomus fulungee* is found in rivers, lakes and reservoirs and is a food fish in their native range, with minor commercial value. This species has not been recorded as introduced or established anywhere in the world outside of its native range. History of invasiveness is uncertain. The climate match for the contiguous United States is low, with all individual states having a low climate score. The certainty of assessment is low due to lack of information. The overall risk assessment for *Gymnostomus fulungee* is uncertain

Assessment Elements

- **History of Invasiveness (Sec. 3): Uncertain**
- **Climate Match (Sec. 6): Low**
- **Certainty of Assessment (Sec. 7): Low**
- **Remarks/Important additional information:** Most literature still refers to the species using the synonym *Cirrhinus fulungee*.
- **Overall Risk Assessment Category: Uncertain**

9 References

Note: The following references were accessed for this ERSS. References cited within quoted text but not accessed are included below in Section 10.

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10 References Quoted But Not Accessed

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